

# UNBEATABLE FLASH FIRE PROTECTION

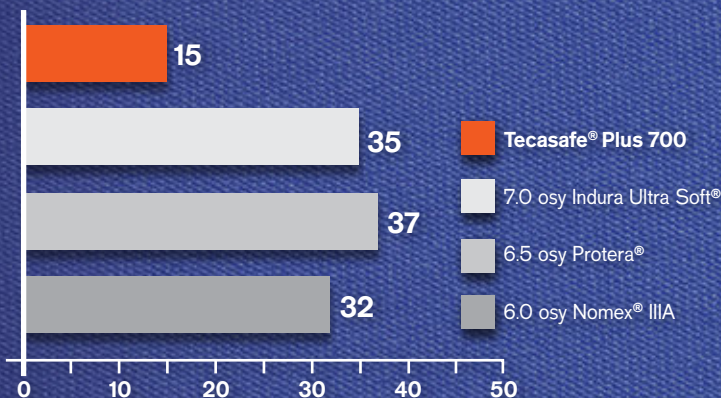


**TenCate Tecasafe® Plus** is a comfortable, light-weight fabric with inherent heat and flame resistant properties. NFPA 2112 certified, it provides durable and affordable flash fire protection for workers in the petroleum, petrochemical, fire service, and other professionals that may be exposed to flash fire. Below, you will see how this inherently flame-resistant fabric provides superior protection and outperforms other protective fabrics. There's also Tecasafe® Plus Hi-Vis yellow. No need to wear a separate Hi-Vis vest over your flame resistant shirt.



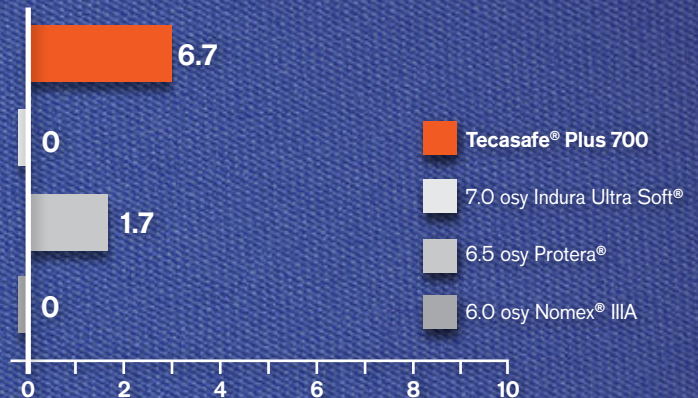
## MANIKIN % BURN

ASTM F 1930 Manikin Test % Body Burn After 3 sec. Exposure

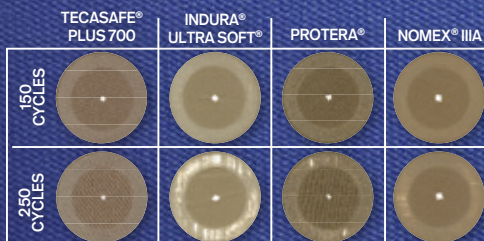


## STRENGTH AFTER THERMAL EXPOSURE

ASTM D 5034 Tensile Strength Test After 10 sec. TPP Exposure

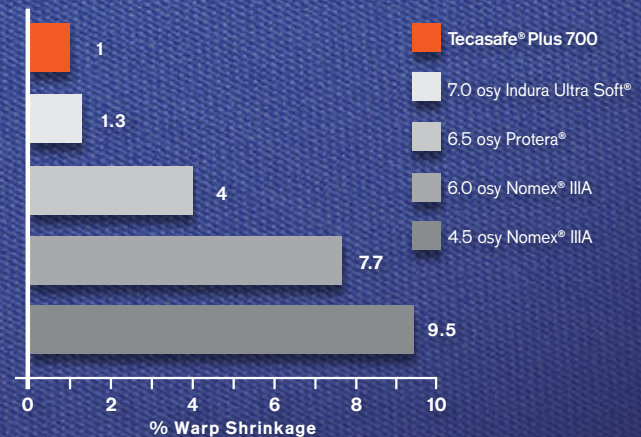


## TABER ABRASION TEST RESULTS



## RESISTANCE TO THERMAL SHRINKAGE

NFPA 2112 TPP Thermal Shrinkage Test



- **Inherently flame resistant** – FR properties are built in, and won't wash or wear out. Exceeds NFPA 70E HRC 1, HRC 2, and NFPA 2112 performance standards.
- **Comfortable to wear** – Soft and breathable. Superior moisture management because of special cellulosic fiber content.
- **Exceptional durability** – Outstanding abrasion resistance and better strength retention after multiple commercial washes.
- **Outstanding laundered appearance** – Fabric retains its like-new look and maintains permanent pressed appearance better than other protective fabrics.
- **Excellent value** – Long life cycle and competitive price means lowest cost.



# TENCATE

# Tecasafe® plus

## PHYSICAL PROPERTIES

|   |  | Tecasafe® Plus 580                 | Tecasafe® Plus 580-A               | Tecasafe® Plus 700                 | Tecasafe® Plus 700-A               | Tecasafe® Plus 850-A               | NFPA 70E Requirement<br>HRC 1 HRC 2 |         | NFPA 2112 Requirement |
|---|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|---------|-----------------------|
| <b>FABRIC WEIGHT</b> (±5%)  | oz /yd <sup>2</sup><br>g /m <sup>2</sup> | 5.8<br>197                         | 5.8<br>197                         | 7.0<br>238                         | 7.0<br>238                         | 8.5<br>288                         |                                     |         |                       |
| <b>FIBER BLEND</b>  |  | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid | fr-modacrylic<br>lyocell<br>aramid |                                     |         |                       |
| <b>STANDARD COLORS</b> (other colors available upon request)          |  | ● ● ● ●                            | ●                                  | ● ● ● ● ●                          | ●                                  | ●                                  |                                     |         |                       |
| <b>ARC THERMAL PERFORMANCE VALUE (ATPV)</b><br>(cal/cm <sup>2</sup> ) | ASTM F 1959                              | 6.5                                | 5.7                                | 9.0                                | 10.1                               | 10.2                               | 5.0 min                             | 8.0 min |                       |
| <b>FLAME RESISTANCE</b>   | ASTM D 6413                              |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| Char Length (inches [warp x fill])                                    |  | < 4.0                              | < 4.0                              | < 4.0                              | < 4.0                              | < 4.0                              | 6.0 max                             | 6.0 max | 4.0 max               |
| After Flame (seconds [warp x fill])                                   |  | < 2.0                              | < 2.0                              | < 2.0                              | < 2.0                              | < 2.0                              |                                     |         | 2.0 max               |
| <b>THERMAL PROTECTIVE PERFORMANCE</b> (cal/cm <sup>2</sup> )          |  |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| With spacer   |  | 9.6                                | 9.8                                | 12.3                               | 10.0                               | 10.0                               |                                     |         | 6.0 min               |
| Without spacer  |  | 6.6                                | 6.5                                | 10.9                               | 7.5                                | 8.0                                |                                     |         | 3.0 min               |
| <b>FLASH FIRE EXPOSURE</b> (Manikin Test)                             | ASTM F 1930                              |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| (% body burn [2 cal/cm <sup>2</sup> /sec] @ 3 sec)                    |  | 23                                 | 32                                 | 15                                 | 23.5                               | 19                                 |                                     |         | 50.0 max              |
| <b>TENSILE STRENGTH</b> (lbs [warp x fill])                           | ASTM D 5034                              | 114 x 85                           | 105 x 80                           | 135 x 85                           | 135 x 85                           | 145 x 90                           |                                     |         |                       |
| <b>ELMENDORF TEAR STRENGTH</b> (lbs [warp x fill])                    | ASTM D 1424                              | 11 x 10                            | 11 x 10                            | 10 x 8                             | 12 x 10                            | 12 x 10                            |                                     |         |                       |
| <b>DIMENSIONAL STABILITY</b> (%) [5x] 120°F                           | AATCC 135                                | ≤ 3.0                              | ≤ 3.0                              | ≤ 3.0                              | ≤ 3.0                              | ≤ 3.0                              |                                     |         |                       |
| <b>WICKING</b>  |  |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| 1" strip, tap water (seconds)   |  |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| 0.5 inches  |  | 3.5                                | 3.5                                | 3.5                                | 3.5                                | 3.5                                |                                     |         |                       |
| 1.0 inches  |  | 13.0                               | 11.5                               | 13.0                               | 13.0                               | 11.0                               |                                     |         |                       |
| 1.5 inches  |  | 29.0                               | 28.0                               | 29.0                               | 29.0                               | 29.0                               |                                     |         |                       |
| 2.0 inches  |  | 61.0                               | 53.0                               | 61.0                               | 61.0                               | 51.0                               |                                     |         |                       |
| <b>PILLING RESISTANCE</b> (%)   | ASTM D 3512                              |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| 30–120 minutes  |  | *5                                 | *5                                 | *5                                 | *4–5                               | *4–5                               |                                     |         |                       |
| <b>THERMAL SHRINKAGE RESISTANCE</b>                                   |  |                                    |                                    |                                    |                                    |                                    |                                     |         |                       |
| (% [500°F, 5 minutes])  |  | ≤ 3.0                              | 3.0                                | ≤ 3.0                              | < 4.0                              | < 3.0                              |                                     |         | 10.0 max              |

1. Tecasafe plus Orange meets Canadian high-visibility safety standard CSA Z96-2009.
2. Tecasafe plus Hi-Vis Yellow meets high-visibility safety standards ANSI 107 and CSA Z96-2009.

Ratings: \*5—Best, \*3—Acceptable, \*1—Poor

CONTACT US AT:

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Finishing and Non-woven are  
ISO-9001 Certified Facilities.

All listed test data and ranges represent typical values. All test data and ranges are the result of multiple tests unless otherwise stated. To the best of our knowledge, the information contained herein is accurate. However, TenCate Protective Fabrics assumes no liability whatsoever for the accuracy or completeness of the information contained herein. Users of any substance must satisfy themselves by independent investigation that the material can be used safely. We have described certain hazards, but we cannot guarantee that these are the only hazards.

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